

WHAT IS CLAIMED IS:

1. An image pickup apparatus comprising:
an image pickup region where a plurality of pixels
which include photoelectric conversion units are
5 arranged to pick up an object image by dividing the
object image into a plurality of regions; and
a scan circuit arranged between said plurality of
photoelectric conversion units in said image pickup
region to commonly process the plurality of pixels
10 or/and signals from the plurality of pixels.

2. An apparatus according to claim 1, wherein
said scan circuit comprises a vertical scan circuit.

- 15 3. An apparatus according to claim 1, wherein
said scan circuit comprises a horizontal scan circuit.

4. An apparatus according to claim 1, wherein
said scan circuit comprises a shift register.

- 20 5. An apparatus according to claim 4, wherein the
shift register is of static type.

6. An apparatus according to claim 1, wherein
25 said scan circuit comprises a decoder.

7. An apparatus according to claim 1, wherein

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said scan circuit occupies an entire area per one pixel region.

8. An apparatus according to claim 7, wherein
5 said scan circuit is arranged on pixels apart from each
other.

9. An apparatus according to claim 1, wherein
said scan circuit occupies a partial area per one pixel
10 region.

10. An apparatus according to claim 1, wherein
said scan circuit comprises vertical and horizontal
scan circuits, and the vertical scan circuit is bent so
as not to cross the horizontal scan circuit.

11. An apparatus according to claim 1, wherein
said scan circuit comprises vertical and horizontal
scan circuits, and the horizontal scan circuit is bent
so as not to cross the vertical scan circuit.

12. An apparatus according to claim 1, wherein said scan circuit is provided on a plurality of rows or columns basis in a column or row direction.

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13. An apparatus according to claim 1, wherein the scan circuit includes circuits which are arranged on a

plurality of rows or columns basis to scan the plurality of rows or columns.

14. An apparatus according to claim 1, wherein an
5 area of a light-receiving region is equal for both one pixel region where said scan circuit is arranged and one pixel region where no scan circuit is arranged.

10 15. An apparatus according to claim 1, wherein an electric power supply line is arranged on said scan circuit.

16. An image pickup apparatus comprising:
an image pickup region where a plurality of pixels
15 which include photoelectric conversion units are arranged to pick up an object image by dividing the object image into a plurality of regions; and
a common processing circuit arranged between the plurality of photoelectric conversion units in said
20 image pickup region to selectively transfer, to a horizontal output line, signals from a vertical output line to which signals from a plurality of pixels in a vertical direction are read.

25 17. An apparatus according to claim 16, wherein said common processing circuit comprises a multiplexer.

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18. An apparatus according to claim 16, further comprising an amplifier arranged between the plurality of photoelectric conversion units to amplify signals transferred to the horizontal output line.

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19. An apparatus according to claim 16, wherein said common processing circuit occupies an entire area per one pixel region.

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20. An apparatus according to claim 19, wherein said common processing circuit is arranged on pixels apart from each other.

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21. An apparatus according to claim 16, wherein said common processing circuit occupies a partial area per one pixel region.

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22. An apparatus according to claim 16, wherein an electric power supply line is arranged on said common processing circuit.

23. An apparatus according to claim 1, further comprising a scintillator plate and fiber optic plate provided in front of the image pickup region.

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24. An apparatus according to claim 16, further comprising a scintillator plate and fiber optic plate

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provided in front of said image pickup region.

25. An apparatus according to claim 23, further comprising:

5 a signal processing circuit adapted to process a signal from said image pickup region;

 a recording circuit adapted to record a signal from said signal processing circuit;

 a display circuit adapted to display the signal

10 from said signal processing circuit; and

 a radiation source adapted to generate radiation.

26. An apparatus according to claim 24, further comprising:

15 a signal processing circuit adapted to process a signal from said image pickup region;

 a recording circuit adapted to record a signal from said signal processing circuit;

 a display circuit adapted to display the signal

20 from said signal processing circuit; and

 a radiation source adapted to generate radiation.

27. An image pickup apparatus comprising:

25 an image pickup region where a plurality of pixels which include photoelectric conversion units are arranged to pick up an object image by dividing the object image into a plurality of regions; and

an external terminal or/and protection circuit arranged between the plurality of photoelectric conversion units in said image pickup region.

5 28. An apparatus according to claim 27, wherein said protection circuit comprises a protection resistor.

10 29. An apparatus according to claim 27, wherein said protection circuit comprises a protection diode.

30. An apparatus according to claim 27, wherein said external terminal has a bump.

15 31. An apparatus according to claim 27, wherein said external terminal occupies an entire area per one pixel region.

20 32. An apparatus according to claim 27, wherein said external terminal occupies a partial area per one pixel region.

25 33. An apparatus according to claim 27, wherein said protection circuit occupies an entire area per one pixel region.

34. An apparatus according to claim 27, wherein

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said protection circuit occupies a partial area per one pixel region.

35. An apparatus according to claim 27, wherein
5 said external terminal is arranged in one pixel region.

36. An apparatus according to claim 27, wherein said external terminal is arranged in a plurality of pixel regions.

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37. An apparatus according to claim 36, wherein said external terminal occupies a partial area in each pixel region.

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38. An apparatus according to claim 27, wherein said external terminal and said protection circuit are arranged in the same pixel region.

39. An apparatus according to claim 27, wherein said external terminal and said protection circuit are arranged side by side.

40. An apparatus according to claim 27, wherein said external terminal and said protection circuit overlap each other.

41. An apparatus according to claim 27, wherein

said external terminal and said protection circuit are arranged in different pixel regions.

42. An apparatus according to claim 27, wherein
5 the pixel region where said external terminal is
arranged and the pixel region where said protection
circuit is arranged are adjacent to each other.

43. An apparatus according to claim 27, wherein
10 the pixel region where said external terminal is
arranged and the pixel region where said protection
circuit is arranged are apart from each other.

44. An apparatus according to claim 27, wherein a
15 protection resistor is interposed between said external
terminal and said protection circuit.

45. An apparatus according to claim 27, wherein
20 external terminals which are connected to a wiring line
sandwiched between boundary sides of first and second
regions included in the plurality of regions and are
arranged in the first region, are not at the same
positions in a direction along the boundary sides as
25 external terminals which are connected to another
wiring line sandwiched between the boundary sides and
are arranged in the second region.

46. An image pickup apparatus for dividing an object image into a plurality of regions to form one image, wherein external terminals which are connected to a wiring line sandwiched between boundary sides of 5 first and second regions and are arranged in the first region, are not at the same positions in a direction along the boundary sides as external terminals which are connected to another wiring line sandwiched between the boundary sides and are arranged in the second 10 region.

47. An apparatus according to claim 27, further comprising a scintillator plate and a fiber optic plate.

15 48. An apparatus according to claim 46, further comprising a scintillator plate and a fiber optic plate.

20 49. An apparatus according to claim 47, further comprising:

a signal processing circuit adapted to process a signal from said image pickup region;
a recording circuit adapted to record a signal 25 from said signal processing circuit;
a display circuit adapted to display the signal from said signal processing circuit; and

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a radiation source adapted to generate radiation.

50. An apparatus according to claim 48, further comprising:

- 5 a signal processing circuit adapted to process a signal from said image pickup region;
- a recording circuit adapted to record a signal from said signal processing circuit;
- a display circuit adapted to display the signal from said signal processing circuit; and
- 10 a radiation source adapted to generate radiation.